UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,015	03/31/2004	Bruno Kristiaan Bernard De Man	146389-2	9547

6147 7590 02/07/2007

GENERAL ELECTRIC COMPANY
GLOBAL RESEARCH
PATENT DOCKET RM. BLDG. K1-4A59
NISKAYUNA, NY 12309

EXAMINER	
KAO, CHIH CHENG G	
ART UNIT	**PAPER NUMBER**
2882	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/07/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/816,015	BERNARD DE MAN ET AL.	
	Examiner	Art Unit	
	Chih-Cheng Glen Kao	2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 December 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-37,39-41 and 43-47* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-21,23-33,35-37,39-41 and 43-47* is/are rejected.

7)☒ Claim(s) *22 and 34* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 37, 39, 40, and 45-47 are objected to because of the following informalities, which appear to be minor draft errors including grammatical and/or lack of antecedent basis problems.

In the following format (location of objection; suggestion for correction), the following correction(s) may obviate the objection(s): (claim 37, line 5, "the distributed"; inserting --one or more-- before "distributed"), (claim 37, line 10, "X-ray sources, and the"; deleting the comma), (claim 45, lines 6-7, "detectors comprises"; replacing "comprises" with --comprise--), (claim 45, line 7, "the scanner aperture.;"; deleting the period), (claim 46, line 3, "an X-ray radiation"; deleting "an"), (claim 46, line 3, "sources comprises"; replacing "comprises" with --comprise--), (claim 46, line 5, "the distributed X-ray sources"; inserting --one or more-- before "distributed"), (claim 46, lines 7-8, "the scanner aperture.;"; deleting the period), (claim 46, line 12, "the distributed X-ray sources"; inserting --one or more-- before "distributed"), (claim 46, line 12, "sources, and the detectors"; deleting the comma), (claim 46, line 12, "the detectors"; inserting --one or more-- before "detectors"), (claim 46, line 13, "the detectors"; inserting --one or more-- before "detectors"), (claim 46, line 13, "the plurality"; replacing "the" with --a--), (claim 47, line 2, "positioned substantially surrounding"; inserting --and-- after "positioned"), (claim 47, lines 7-8, "the one or more distributed X-ray sources"; replacing "one or more" with --at least one stationary-- and replacing "sources" with --source--), and (claim 47, last line, "the one or more detectors"; replacing "one or more detectors" with --at least one distributed detector--).

Claims 39 and 40 are objected to by virtue of their dependency. For purposes of examination, the claims have been treated as such. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 45 and 47 are rejected under 35 U.S.C. 102(e) as being anticipated by Zhou et al. (US 2004/0213378).

Zhou et al. discloses a system and method (fig. 8) comprising one or more distributed X-ray sources (fig. 8, #802) substantially surrounding an imaging volume (fig. 8, on #804) and configured to generate X-ray radiation (paragraph 71, line 5) towards the imaging volume, wherein the one or more distributed X-ray sources comprise at least one stationary distributed source positioned about a scanner aperture (paragraph 71, lines 8-10), one or more detectors (fig. 8, #806) for receiving the X-ray radiation after attenuation in the imaging volume (fig. 8, on #804) and processing corresponding signals to produce measurement volumetric data (paragraph 64), wherein the one or more detectors comprise at least one distributed detector configured to rotate around the scanner aperture (paragraph 71, lines 10-12), and a source controller for triggering one or more emitters in the one or more distributed X-ray sources (paragraph 52) at

each instant in time of an image acquisition for creating multiple projections for acquiring volumetric data by the one or more detectors (paragraph 53).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 5, 8-10, 12, 14, 15, 17, 18, 23-27, 29, 30, 35, 36, 41, 43, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhou et al. in view of Ning (US 6504892).

4. Regarding claims 1 and 41, Zhou et al. discloses a system and method (fig. 8) comprising one or more distributed X-ray sources (fig. 8, #802) substantially surrounding an imaging volume (fig. 8, on #804) and configured to generate X-ray radiation (paragraph 71, line 5) towards the imaging volume, one or more detectors (fig. 8, #806) for receiving the X-ray radiation after attenuation in the imaging volume (fig. 8, on #804) and processing corresponding signals to produce measurement volumetric data (paragraph 64), and a source controller for triggering one or more emitters in the one or more distributed X-ray sources (paragraph 52) at each instant in time of an image acquisition for creating multiple projections for acquiring volumetric data by the one or more detectors (paragraph 53), wherein the one or more distributed X-ray sources and/or the one or more detectors are arranged about a scanner aperture (fig. 8,

aperture of #802 and 806) such that the one or more distributed X-ray sources are around the scanner aperture in relation to the imaging volume during an imaging sequence (paragraph 71).

However, Zhou et al. fails to disclose arranging about a scanner aperture for rotation around the scanner aperture in relation to an imaging volume during an imaging sequence.

Ning teaches arranging about a scanner aperture for rotation (col. 4, lines 35-52, "arc") around the scanner aperture in relation to an imaging volume (fig. 7, at P) during an imaging sequence.

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to modify the system and method of Zhou et al. with the rotation of Ning, since one would have been motivated to make such a modification for more accurate reconstruction (col. 3, lines 45-49) as implied from Ning.

5. Regarding claims 15 and 44, Zhou et al. further discloses wherein the one or more distributed X-ray sources comprise at least one distributed source configured to rotate around the scanner aperture (paragraph 71, lines 10-12) and the one or more detectors comprise at least one stationary and distributed detector positioned about the scanner aperture (paragraph 71, lines 8-10).

6. Regarding claims 5 and 17, Zhou et al. further discloses wherein the one or more distributed X-ray sources comprise one or more one-dimensional arrays of source elements (paragraph 71, lines 4-5, which together form the circular x-ray source) extending substantially around the aperture.

7. Regarding claims 8 and 18, Zhou et al. further discloses wherein the one or more distributed X-ray sources comprise one or more one-dimensional arrays of source elements extending around at least a portion of the aperture (paragraph 71, lines 4-5).

8. Regarding claims 9, 23, and 24, Zhou et al. further discloses wherein the one or more detectors comprise one or more two-dimensional arrays of detector elements (fig. 8, #806) extending around at least a portion of the aperture or substantially around the aperture.

9. Regarding claims 10, 25, and 26, Zhou et al. further discloses wherein the one or more detectors comprise one or more one-dimensional arrays of detector elements (fig. 8, which together form the two-dimensional array of #806) extending around at least a portion of the aperture or substantially around the aperture.

10. Regarding claim 12, Zhou et al. further discloses wherein the one or more distributed X-ray sources comprise a plurality of independently addressable (paragraph 3, line 6) source elements in one or more arrays.

11. Regarding claim 14, Zhou et al. further discloses wherein the one or more distributed X-ray sources comprise addressable emission devices and the emission devices comprise thermionic emitters, cold-cathode emitters, carbon-based emitters (paragraph 3, lines 3-4), photo emitters, ferroelectric emitters, laser diodes, or monolithic semiconductors.

12. Regarding claims 27 and 43, Ning further teaches an X-ray source (fig. 7, #710) configured to rotate (fig. 7, via #713) around a scanner aperture and a detector (fig. 7, #711) configured to rotate around a scanner aperture.

13. Regarding claim 29, Zhou et al. further discloses wherein the at least one distributed source includes one or more one-dimensional arrays of source elements (fig. 8, #802).

14. Regarding claim 30, Zhou et al. further discloses wherein the one or more one-dimensional arrays of source elements (fig. 8, #802) extend around at least a portion of the aperture.

15. Regarding claims 35 and 36, Zhou et al. further discloses wherein the at least one distributed detector includes one or more two-dimensional or one-dimensional arrays of detector elements (fig. 8, which together form #806) extending around at least a portion of the aperture.

16. Claims 3, 4, 6, 7, 11, 16, 19-21, 28, and 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhou et al. ('378) and Ning as applied to claims 1, 5, 15, 17, 18, 27, 30, and 29 above, and further in view of Zhou et al. (US 2002/0094064).

17. Regarding claims 3, 4, and 16, Zhou et al. ('378) as modified above suggests a system as recited above. Zhou et al. ('378) further discloses wherein the one or more distributed X-ray

sources comprise arrays (fig. 1) of source elements extending substantially around or around a portion the aperture (paragraph 71, lines 4-6).

However, Zhou et al. ('378) fails to disclose one or more two-dimensional areas.

Zhou et al. ('064) teaches one or more two-dimensional areas (fig. 4, #404).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to further modify the system of Zhou et al. ('378) as modified above with the areas of Zhou et al. ('064), since one would have been motivated to make such a modification for imaging a larger object from different areas and/or angles without having to move the object or the x-ray source (paragraph 25) as shown by Zhou et al. ('064), which would reduce wear on a system.

18. Regarding claims 6 and 19, Zhou et al. ('378) further discloses one one-dimensional array of source elements extending substantially around the aperture (paragraph 71, lines 4-6, circular x-ray source). Zhou et al. ('064) further teaches one or more lines (fig. 4, lines from inner to outer edges of #420).

19. Regarding claims 7, 11, and 20, Zhou et al. ('064) further teaches two or more one one-dimensional areas extending substantially around (paragraph 38, lines 11-13), and one or more lines (fig. 4, lines from inner to outer edges of #420).

20. Regarding claim 21, Zhou et al. ('064) further teaches wherein at least one line (fig. 4, line from inner to outer edges of #420) extends at least along a Z-direction (fig. 4, direction along long axis of #418).

21. Regarding claim 28, Zhou et al. ('378) as modified above suggests a system as recited above. Zhou et al. ('378) further discloses wherein the one or more distributed X-ray sources include arrays (fig. 1) of source elements extending substantially around or around a portion of the aperture (paragraph 71, lines 4-6).

However, Zhou et al. ('378) fails to disclose one or more two-dimensional areas.

Zhou et al. ('064) teaches one or more two-dimensional areas (fig. 4, #404).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to further modify the system of Zhou et al. ('378) as modified above with the areas of Zhou et al. ('064), since one would have been motivated to make such a modification for imaging a larger object from different areas and/or angles without having to substantially move the object or the x-ray source (paragraph 25) as shown by Zhou et al. ('064), which would reduce wear on a system.

22. Regarding claims 31 and 33, Zhou et al. ('378) further discloses a one-dimensional array of source elements (paragraph 71, lines 4-6). Zhou et al. ('064) further teaches at least one line (fig. 4, lines from inner to outer edges of #420) extending at least along a Z-direction (fig. 4, direction along long axis of #418).

23. Regarding claim 32, Zhou et al. ('064) further teaches two or more one-dimensional areas (fig. 4, along the inner and outer edges of #420) and one or more lines (fig. 4, lines from inner to outer edges of #420).

24. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zhou et al. ('378) and Ning as applied to claim 1 above, and further in view of Price et al. (US 2002/0085674).

Zhou et al. as modified above suggests a system as recited above.

However, Zhou et al. fails to disclose a cold cathode emitter housed in a vacuum housing and an anode disposed in a vacuum housing and spaced apart from the cold cathode emitter.

Price et al. teaches a cold cathode emitter housed in a vacuum housing (abstract, lines 2-3) and an anode disposed in a vacuum housing and spaced apart from the cold cathode emitter (abstract, lines 3-4).

It would have been obvious, to one having ordinary skill in the art at the time of the invention was made, to further modify the system of Zhou et al. as modified above with the cathode and anode of Price et al., since one would have been motivated to make such a modification for reducing the complexity of a scanning system (paragraph 6) as shown by Price et al.

25. Claims 37, 39, 40, and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhou et al. ('378) in view of Ning and Hsieh et al. (US 5225980).

26. Regarding claim 37, Zhou et al. discloses a system comprising one or more distributed X-ray sources (fig. 8, #802) substantially surrounding an imaging volume (fig. 8, on #804) and configured to emanate X-ray radiation (paragraph 71, line 5), a necessary control circuit (paragraph 28, lines 1-6, for controlling the sequence or pattern) operably coupled to the one or more distributed X-ray sources, one or more detectors (fig. 8, #806) for receiving the X-ray radiation after attenuation in the imaging volume (fig. 8, on #804), a source controller for triggering one or more emitters in the one or more distributed X-ray sources (paragraph 52) at each instant in time of an image acquisition for creating multiple projections for acquiring volumetric data by the one or more detectors (paragraph 53), displacing at least one of the one or more distributed X-ray sources and the one or more detectors (paragraph 71, lines 10-12), a processing circuit operably coupled to the one or more detectors configured to receive a plurality of projection images (paragraph 33, lines 8-11) and to form one or more reconstructed slices representative of the volume being imaged (paragraph 66), wherein the one or more distributed X-ray sources are arranged about a scanner aperture such that the one or more distributed X-ray sources are about a scanner aperture (paragraph 71, lines 10-12) in relation to the imaging volume during an imaging sequence.

However, Zhou et al. fails to disclose a motor controller for rotating about a scanner aperture and an operator workstation operably coupled to a processing circuit configured to display one or more reconstructed slices.

Ning teaches a motor controller (fig. 7, #713 and 715) for rotating about a scanner aperture. Hsieh et al. teaches an operator workstation (fig. 2, #60 and 64) operably coupled to a processing circuit configured to display one or more reconstructed slices (col. 6, lines 16-22).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to modify the system of Zhou et al. with the motor controller for rotation of Ning, since one would have been motivated to make such a modification for more easily moving components (fig. 7, #713) and for more accurate reconstruction (col. 3, lines 45-49) as implied from Ning.

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to modify the system of Zhou et al. with the display of Hsieh et al., since one would have been motivated to make such a modification for more easily interpreting image data.

27. Regarding claim 39, Ning further teaches an X-ray source (fig. 7, #710) configured to rotate (fig. 7, via #713) around a scanner aperture and a detector (fig. 7, #711) configured to rotate around a scanner aperture.

28. Regarding claim 40, Zhou et al. further discloses wherein the one or more distributed X-ray sources comprise at least one distributed source configured to rotate around the scanner aperture (paragraph 71, lines 10-12) and the one or more detectors comprise at least one stationary and distributed detector positioned about the scanner aperture (paragraph 71, lines 8-10).

29. Regarding claim 46, Zhou et al. discloses a system comprising one or more distributed X-ray sources (fig. 8, #802) substantially surrounding an imaging volume (fig. 8, on #804) and

configured to emanate X-ray radiation (paragraph 71, line 5), wherein the one or more distributed X-ray sources comprise at least one stationary distributed source positioned about a scanner aperture (paragraph 71, lines 8-10), a necessary control circuit (paragraph 28, lines 1-6, for controlling the sequence or pattern) operably coupled to the one or more distributed X-ray sources, one or more detectors (fig. 8, #806) for receiving the X-ray radiation after attenuation in the imaging volume (fig. 8, on #804), wherein the one or more detectors comprise at least one distributed detector configured to rotate around a scanner aperture (paragraph 71, lines 10-12), a source controller for triggering one or more emitters in the one or more distributed X-ray sources (paragraph 52) at each instant in time of an image acquisition for creating multiple projections for acquiring volumetric data by the one or more detectors (paragraph 53), displacing at least one of the one or more distributed X-ray sources and the one or more detectors (paragraph 71, lines 10-12), and a processing circuit operably coupled to the one or more detectors configured to receive a plurality of projection images (paragraph 33, lines 8-11) and to form one or more reconstructed slices representative of the volume being imaged (paragraph 66).

However, Zhou et al. fails to disclose a motor controller and an operator workstation operably coupled to a processing circuit configured to display one or more reconstructed slices.

Ning teaches a motor controller (fig. 7, #713 and 715). Hsieh et al. teaches an operator workstation (fig. 2, #60 and 64) operably coupled to a processing circuit configured to display one or more reconstructed slices (col. 6, lines 16-22).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to modify the system of Zhou et al. with the motor controller of Ning, since

one would have been motivated to make such a modification for more easily moving components (fig. 7, #713) as implied from Ning.

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to modify the system of Zhou et al. with the display of Hsieh et al., since one would have been motivated to make such a modification for more easily interpreting image data.

Allowable Subject Matter

30. Claims 22 and 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter.

Regarding claims 22 and 34, prior art fails to disclose or fairly suggest an imaging system, including wherein at least one line source comprises a target configured as a hollow cylinder rotating around an axis of the hollow cylinder, in combination with all the limitations in each respective claim.

Response to Arguments

31. Applicant's arguments with respect to claims 1, 3-21, 23-33, 35-37, 39-41, 43 and 44 have been considered but are moot in view of the new ground(s) of rejection. Applicant's arguments filed December 13, 2006, have been fully considered but they are not persuasive.

Regarding the claim rejections under 35 U.S.C. 103(a), in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references.

As applied in the combination of Zhou et al. ('378) and Zhou et al. ('064), Zhou et al. ('378) discloses a dimensional array of sources (fig. 8, #802). Zhou et al. ('064) teaches a two-dimensional area (fig. 4, #404). Therefore, the combination of references suggests a two dimensional (Zhou et al. ('064)) array of sources (Zhou et al. ('378)).

As applied in the combination of Zhou et al. ('378) and Ning, Zhou et al. ('378) discloses a distributed source (fig. 8, #802). Ning teaches source movement about a scanner aperture (col. 4, lines 35-52, "arc"). Therefore, the combination of references suggests a distributed source and distributed source (Zhou et al. ('378)) movement about a scanner aperture (Ning).

Regarding claims 45-47, applicant argues that none of the cited references teach a distributed detector. The examiner disagrees. Zhou et al. ('378) teaches a distributed detector (fig. 8, #806).

In conclusion applicant's arguments are not persuasive, and the claims remain rejected.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Cheng Glen Kao whose telephone number is (571) 272-2492. The examiner can normally be reached on M - F (9 am to 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

gk

EDWARD J. GLICK
SUPERVISORY PATENT EXAMINER